

Remarks

The application has been reviewed in light of the Official Action mailed December 5, 2005. Claims 1 and 4-13 have been amended. Claims 14-21 are new. Claims 2 and 3 are cancelled. Claims 1 and 4-21 are pending in the application.

No new matter is introduced by the amendments. The amendments are supported by paragraphs [0006], [0018], and [0021]-[0023] and Figs. 2 and 3.

The Examiner objected to claims 1-13. Claim 1 has been amended to recite "substrate holder." Claims 2-13 have been amended to remove "or in particular according thereto."

The Examiner rejected claims 1-13 under 35 U.S.C. 112, second paragraph, as being indefinite. These claims have been amended to address the Examiner's rejections.

The Examiner also rejected claims 1-6 and 8-13 under 35 U.S.C. 102(e) as being anticipated by White (WO 01/99257). Claim 7 was rejected under 35 U.S.C. 103(a) as being unpatentable over White in view of Frijlink (US 4,860,687). Claim 9 was rejected under 35 U.S.C. 103(a) as being unpatentable over White in view of Aschner (US 6,005,226). Applicant respectfully submits that the claims as amended are patentable over the cited references because all claims require that "the support body includes a ring bead which projects into a ring recess in the substrate holder."

Applicant respectfully submits that White does not anticipate the claimed invention because White discloses a gas bearing rotor 113A that is received by a cavity in a gas bearing base 210. Rotor 113A provides support to cylinder 115 and edge ring 119. The Examiner identifies the gas bearing base 210 as a support body and the summation of rotor 113A, cylinder 115, and ring 119 as a substrate holder. The gas bearing base

210 comprises a gas support inlet 204, which provides a gas cushion to elevate rotor 113A, and gas rotation inlets 202,206, which provide lateral pressure on rotor 113A and enable rotor 113A to rotate within the cavity of gas bearing base 210. White does not disclose a support body with "a ring bead which projects into a ring recess in the substrate holder." As a result, Applicant respectfully submits that White does not anticipate the claimed invention.

Applicant respectfully submits that Frijlink and Aschner also disclose gas driven rotation systems that do not anticipate the claimed invention. Frijlink and Aschner disclose plates that are gas driven to rotate upon a pin. Frijlink shows alternative embodiments in which the center of the susceptors 30 extend into cavities formed in reference surface 10 and rotate therein. (Fig. 4a and 4b). Frijlink and Aschner do not disclose "a ring bead which projects into a ring recess in the substrate holder." As a result, Applicant respectfully submits that these references do not anticipate the claimed invention.

Further, Applicant respectfully submits that the claimed invention is not rendered obvious by White, Frijlink or Aschner, or any combination there between, because there is no motivation or suggestion to modify or combine these references in accordance with the claimed invention.

It is well settled that the mere fact that references can be combined or modified does not render the resultant combination obvious unless the prior art also suggests the desirability of the combination. *In re Mills*, 916 F.2d 680, 16 U.S.P.Q.2d 1430 (Fed. Cir. 1990). Applicant respectfully submits that one skilled in the art would not be motivated to modify White in accordance with the claimed invention. White is directed to addressing the problem of a bearing race 21 "disposed within a well 39 and, as a result of ball bearings 22, rotates relative to a lower bearing race 26." (page 2, l. 1-3). The "sliding

and rolling contact associated with the ball bearings leads to particle generation in the processing chamber.” (page 2, l. 21-23). Further, “damage and corrosion may be caused to the bearings by the presence of hot gases in these regions.” (page 3, l. 14-16). As a result, White seeks to provide “a gas bearing to support a rotor coupled to a substrate support.” (page 3 l. 23-24)(emphasis added). White discloses that “edge ring 119... is mounted on the support cylinder 115. The support cylinder 115 is coupled to the rotor 113.” (page 6 l. 14-16)(emphasis added). Thus, White is directed towards providing an alternative rotational mechanism for an object that extends away from a substrate support (in this case a rotor) and is inserted into a well. In order for White to be modified and directed to the claimed invention, White would effectively have to be inverted. Applicant respectfully submits that one skilled in the art would not be motivated by White to invert its teachings.

In fact, Applicant respectfully submits that White, Frijlink and Aschner lead one skilled in the art to embodiments that are directly contrary to Applicant’s claimed invention. All references disclose embodiments that are either rotating plates freely about a parallel surface, rotating plates placed on centered pins, or rotating plates that have protruding portions that are received by the underlying supporting area. Frijlink and Aschner disclose a single protrusion at the center of the plate. White discloses a ring like protrusion at the edge of the plate. These protrusions are received by a cavity in the underlying supporting body. As a result, Applicant respectfully submits that one skilled in the art would not be motivated to modify any of these references into a support body that “includes a ring bead which projects into a ring recess in the substrate holder.”

It is well settled that if the proposed modification or combination of the prior art would change the principle of operation of the prior art invention being modified, then the teachings of the references are not sufficient to render the claims prima facie obvi-

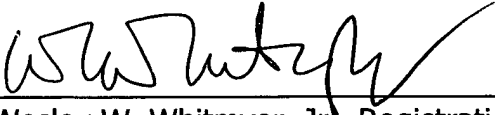
ous. In *re Ratti*, 270 F.2d 810, 123 USPQ 349 (CCPA 1959). Applicant respectfully submits that modifying White into the present invention would change the principle of operation of White. As noted above, White is directed to resolving the problem of a bearing race inserted into a well and the particles and corrosion associated with bearings in the system. As a result, White provides a gas bearing to provide support to the rotor inserted into the well. For White to be directed to the claimed invention, the structure in White would need to be inverted. As a result, the rotor extending away from the substrate support would no longer be inserted into a well. Thus, the gas bearing would no longer be providing support to the rotor. Applicant respectfully submits that such a modification would change the principle of operation of the device disclosed in White. As a result, White does not render the claimed invention obvious.

Finally, Applicant respectfully submits that if one skilled in the art were to combine these references, such a combination would not yield the claimed invention. All references disclose rotating plates in which a portion extends away from the plate and is received by a cavity in a supporting body. As a result, combining these references would achieve the same effect. Applying White to Frijlink or Aschner would move the extending portion away from the center of the plate to the edge of the plate. Applying Frijlink or Aschner to White would move the extending portion away from the edge of the plate to the center of the plate. Alternatively, such a combination would eliminate the extending portion altogether and result in one planar surface rotating relative to another planar surface. Applicant respectfully submits that such a combination would not yield a support body with "a ring bead which projects into a ring recess in the substrate holder."

In view of the foregoing amendments and remarks, it is respectfully submitted that all of the claims currently pending in the application are now in condition for allowance. Reconsideration and notice to that effect is earnestly requested.

Respectfully submitted,

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